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ABSTRACT

This analysis illustrates how alumni survey research can assess outcomes for graduates of master's degree programs and also be responsive to program goals, policy concerns of administrators, instructional values of the faculty, and standards of professional practice. Issues related to survey design and analysis are discussed, based on a study of 347 (a response rate of 64%) alumni of master's degree teacher education programs at a large northeastern university. Consideration is given to the design of the survey, which initially involved factor analysis of questionnaire items relating to graduates' evaluation of the program and their reported professional challenges. Attention is directed to the eight scales which were constructed after internal consistency and reliability were established; six scales covered program evaluation and two concerned professional experience. Faculty perspectives on student outcomes and professional accreditation standards were used to design three survey questions. Selected results are presented which confirm the impact of satisfaction with courses, perception of intellectual challenge, and the quality of professional preparation on graduates' overall evaluation of the program and on their reevaluation of their choice of the particular program. (Contains 16 references.) (SW)

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# Quality Assessment of Professional Master's Degree Programs

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**Jean Endo**
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**Abstract**

This paper demonstrates how alumni survey research can be designed to focus assessment of master's degree programs on student outcomes and be responsive to program goals, policy concerns of administrators, instructional values of the faculty, and standards of professional practice. Based on a completed study of 541 alumni/ae of master's degree teacher education programs at a large northeastern university, this paper presents critical design issues, analysis principles and selected findings relevant to assessment of other professional master's degree programs. Results confirm the impact of satisfaction with courses, perception of intellectual challenge and the quality of professional preparation on graduates' overall evaluation of the program and on their reevaluation of their choice of this particular program.

## Introduction

This paper presents critical design and analysis principles relevant to conducting graduate follow-up studies for the assessment of professional master's degree programs. Based on a completed assessment study of a master's degree teacher education program at a large northeastern university, the paper demonstrates how a well designed instrument can address a broad range of assessment issues including policy concerns of administrators, instructional values of the faculty, standards of professional practice, and particular goals of a professional master's level educational program. To inform the design of future assessment studies, the paper presents a conceptual framework, a research design plan, identification of relevant issues and appropriate analytical techniques.

## Review of the Literature

### Graduate Level Assessment

A review of the literature indicates that graduate level assessment ought to be given greater attention in the higher education assessment movement. In their review, Kaylor and Johnson (1994) observe that graduate professional education is seldom addressed in discussions of outcomes assessment. The authors suggest further that some accommodation needs to be made in order to integrate graduate professional education into the current assessment movement. Essential to the integration of assessment in professional graduate education is an awareness that professional education is inherently holistic, involving the synthesis of technical knowledge, skills and judgments (Elman & Lynton, 1986). An understanding that the actual practice of the profession must be responsive to a wide array of social, economic, and political factors is also relevant to effective assessment of graduate education. "It is this necessary responsiveness in a wider system of practice that the institutional researcher can use in the creation of a more substantive assessment program" (Kaylor & Johnson, 1994, p. 12).

Assessment literature highlights in particular the need for increased attention to master's level education. Historical analysis has revealed that assessment of master's degree programs in the United States was rarely mentioned in the literature until the 1970's. Further, once

undertaken, master's level assessments were identified as a priority concern in graduate education (Pelczar & Frances, 1984). A review of the initial assessment efforts revealed two limitations: a limited focus on program resources and a lack of attention to student outcomes (Conrad & Egan, 1990). In response to these limitations, critics have recommended expanding the criteria to ensure a comprehensive basis for assessment. Conrad and Egan (1990) identify six criteria: faculty, students, resources, learning environment, curriculum and placement of alumni. More recently, authors of A Silent Success (Conrad, Haworth & Millar, 1993) identify attributes of high quality master's experiences which could form the basis for a comprehensive assessment program. Also, for some time, researchers have advocated that master's degree assessment efforts give greater attention to the students who are the primary 'stakeholders' in this enterprise (e.g., Clark, 1979; Kirkwood, 1985; & Conrad & Egan, 1990).

## Alumni Research in Assessment

This paper demonstrates how survey research can be used to focus assessment of master's degree programs on student outcomes while including evaluation of the faculty, curricula and the learning environment. The relevance of alumni research to administrative decision making and various university functions has been recognized for some time (Pace, 1979). Recently, alumni research has assumed increasing importance for its potential contribution to outcomes assessment (Pike, 1990). Alumni surveys provide a basis for evaluating how well the knowledge and skills developed through the educational program relate to the knowledge and skills required in the workplace (Jennings, 1989). As Williford and Moden (1989) observe, a unique feature of alumni surveys, compared with surveys of enrolled students, is the capability of documenting students' assessment of the quality of their educational experience tempered by their experiences since graduation. Alumni potentially offer an objective perspective given their distance from involvement with the program (Khalil, 1990).

Results from alumni research also provide a basis for examining the relationship between satisfaction with college and academic major (Richardson, 1993), perception of learning during college (Pike, 1993b), and subsequent work experience (Pike, 1993a). Of particular importance

to institutional researchers is the realization that in order to serve any of these functions effectively, the alumni research study needs to be designed and the information presented in the appropriate form and at the appropriate level of detail for the intended audiences and users of the results (Moden and Williford, 1988).

## Design Issues

### Identification of the Population

The identification and size of the survey population are critical design issues that affect the ability to analyze variations in the data and to make inferences to populations of interest. Generally it is advisable to determine, prior to conducting the study, what subgroup analyses will be conducted, and to estimate not only the overall response rate but also the response rates for individual departments or classes for which inferences might be made. Statistical formulae, taking into account levels of statistical significance and power, may also be used to determine sufficient sample sizes to support tests of significance and inferences to the intended population.

The population for the present study included 580 alumni/ae who graduated from 1987 through 1993 with an M.Ed. degree from the School of Education in one of the following teacher education programs: Elementary Education, Secondary Education, Special Education, Early Childhood Education and Reading. Some fifty full-time faculty are engaged in these professional education programs which enroll approximately 200 full-time and 400 part-time graduate students and 550 full-time undergraduate students. The School of Education is one of several professional schools in a large, private university with 591 full-time faculty, 4300 graduate and professional students and a total enrollment of 14,500.

Data were obtained by means of a mailed survey sent during the 1994 spring semester. Follow-up data collection procedures included cover letters from the Dean, postage paid return envelopes with each survey mailing, a reminder post-card to the total population after the initial mailing, and two complete follow-up survey packages to all non-respondents. These follow-up procedures yielded a response rate of 64 percent; of the 541 deliverable surveys, 347 were returned.

## Design of the Survey Instrument

The survey included three major sections: A. Evaluation of the Master's Program, B. Employment Experience Prior and Subsequent to the Master's Program, and C. A Profile of Survey Respondents. The **evaluation section**, the core segment of the survey, included questions eliciting graduates' expectations from and satisfaction with various components of the program as well as their assessment of how well the program prepared them for various aspects of their professional practice. The **employment experience** segment focused on graduates' employment seeking experience including their degree of difficulty in finding employment and the types of positions sought; a history of their teaching experience including the types of positions held, grade levels, job settings and types of institutions in which they taught; current employment status; level of job satisfaction and professional challenges encountered in teaching. The **profile of survey respondents** elicited information on respondents' age, gender, racial/ethnic background, income and undergraduate education; their reasons for choosing and sources of financing the Master's Program; and the nature and extent of education pursued and planned following the completion of the Master's Program. The following discussion identifies the substantive issues addressed in the evaluation section and in the segment of the employment section dealing with professional challenges. These two areas were most pertinent to the assessment of the program's effectiveness.

### Evaluation Section

This survey illustrates the importance of conceptualizing student outcome from the perspective of various constituencies - graduates, faculty and professional accrediting organizations. These perspectives were identified through interviews, discussions and analysis of institutional and professional literature.

Graduates' Perspective. In a structured questionnaire format, survey respondents were presented with the following set of **expectations** and asked to indicate which ones reflected their initial expectations of the master's degree teacher education program and whether or not their expectations were achieved:

- To further one's own intellectual development;
- To achieve the next step in pursuit of a doctorate;
- To advance professionally;
- To obtain initial teacher education training;
- To obtain necessary credentials for one's career;
- To become more competitive in the job market; and
- To increase one's salary level.

These expectations were intended to reflect the multiple goals of a graduate professional degree program, i.e., intellectual growth, professional development and career preparation. Respondents were also provided with the option of identifying their own additional expectations. Policy and analysis considerations suggest that student expectations and the fulfillment of these expectations should be integral components of teacher education follow-up studies. From a policy perspective, teacher preparation programs should be accountable to the students they educate as well as to the standards of the profession. Further, analyses of these data, showing the relationship between students' expectations and the reality of their educational experience, may yield valuable insights relevant to explaining variation in graduates' satisfaction with their educational program.

Two survey questions focused on **graduates' satisfaction with the program**; both questions used four point Likert response scales. These questions were designed in collaboration with the faculty who recommended that graduates' satisfaction with their courses be measured at the department level rather than at the individual course level. The first question focused on the following general aspects of the master's program: class lectures/professors' presentations, class discussions/exchanges with peers, assigned readings, course assignments/projects, balance between theory and practice, coverage of current issues, relevance to the real world, use of technology, and professor's methods of evaluating students. The second question addressed the following specific components of the teacher education program: School of Education courses in general, courses in the student's own major, "methods" courses (e.g. Science), "theory" courses (e.g. Modern Educational Thought), foundations courses (e.g. Educational Measurement), Psychology - Human Development courses, Arts and Sciences courses (not in education), work with faculty on research projects, practicum experience, responsiveness of the Field Office,

academic and career advising from faculty, Educational Resource Center, university library holdings in education, and intellectual environment.

Graduates were also asked to rate, on a four point Likert scale, the **level of intellectual challenge** offered by the following aspects of the master's program: class lectures/professors' presentations, class discussions/exchanges with peers, assigned readings, and course assignments/projects.

Faculty Perspective. The faculty's perspective on student outcomes, presented in a paper entitled 'Andover Themes', provided the source for another question in the survey. The themes emanated from discussions at academic retreats held at the Andover Inn in Massachusetts. This document identified the following themes reflecting the faculty's philosophy and goals for the teacher preparation programs: learners as constructors of meaning; reflection on theory, research, and practice; feedback from practice informing theory and research; diverse models and methods for diverse learners; and promoting social justice. Two questions were designed to address these themes. First, on a five point Likert scale, respondents were asked to rate how well their master's program enabled them to achieve the following objectives:

- Possess an adequate knowledge base to develop and evaluate your own philosophy;
- Reflect on and evaluate their own practice;
- Translate the theories learned into practical knowledge and teaching strategies;
- Handle uncertainty by constructively seeking the best solution to problems;
- Deal effectively with complexity resulting from multiple teacher roles; and
- Design and execute classroom-based research.

In another question, graduates were asked how well the program helped them develop the capability to cope with students:

- With different ability levels in the same class;
- From different socioeconomic backgrounds;
- From diverse racial/ethnic, cultural backgrounds; and
- In an inner-city school system.

In summary, these two questions elicited graduates' perception regarding how well the program prepared them to engage in reflective practice and to cope effectively with diversity in the

classroom - both major themes in the faculty's statement of goals for the teacher education programs.

Professional Accreditation Standards. The external accrediting board's standards of professional practice provide yet another source for identifying relevant student outcomes. In this survey, the 'Common Knowledge Standards' articulated by the Commonwealth of Massachusetts for accreditation of teacher education programs were used as a basis for generating a question focused on student outcomes in terms of standards of professional practice. These standards address several dimensions of teaching, including Communication, Instructional Practice, Evaluation, Problem Solving, Equity and Professional Responsibility. In a structured question format, respondents were asked to rate, on a five point Likert scale, how well their master's program enabled them to achieve the following objectives related to these standards:

- Communicate the goals of learning clearly to students;
- Integrate knowledge of subject, method, and individual differences;
- Design and use evaluative procedures appropriate for students in different groups;
- Use inquiry methods to create an effective learning environment;
- Use relevant support systems within and outside the school system; and
- Show respect for the unique students' developmental and cultural needs.

Employment Section - Professional Challenges

For the purpose of assessing how well the master's program prepared graduates for their professional practice, an effort was made to identify the professional challenges alumni/ae encountered in their post-graduate teaching experience. Respondents were presented with a list of potential work related challenges and asked to indicate how challenging each of these issues was for them during their teaching assignments after earning their master's degree: collaborate with others, develop rapport with students, develop students' critical thinking skills, evaluate students' performance, evaluate their own teaching, maintain discipline, motivate students, plan class instruction, relate to administrators, relate to parents, train students in problem-solving methods, and work with mainstreamed students.

## Analysis Techniques

### Development of Scales

Procedures employed in the analysis of this master's alumni survey illustrate how statistical techniques can be used to simplify survey data and to create reliable measures of the program dimensions being evaluated. Initially, factor analysis was employed with an extensive number of questionnaire items related to graduates' evaluation of the program and their report of challenges encountered in their professional practice. Results from factor analyses indicated which individual items were correlated with each other and what underlying dimensions were represented in the data. Scales were then created by combining similar items into one measure; items with high factor loading or weights on a particular factor were chosen to be included in the scale. Prior to using the scales in the analysis, alpha reliability coefficients were computed to determine the internal consistency of the scales.

Reliability analysis confirmed the internal consistency of eight scales. For purposes of analysis and discussion, these eight scales are classified into two broad categories: Program Evaluation and Professional Experience scales. There are six Program Evaluation scales and two Professional Experience scales. Given the nature of the issues addressed, a modified version of these scales may be relevant to the evaluation of other programs. The content, while focused on teacher education, could be easily adapted to other professional degree programs.

### Program Evaluation Scales

The six Program Evaluation scales represent different dimensions of graduates' evaluation of their education: their satisfaction with various program components, their perception of how well the program prepared them for their professional practice, and their assessment of the level of intellectual challenge offered in the program. To reflect these different dimensions, the program evaluation scales are presented in Table 1 as Program Satisfaction scales, Assessment of Professional Preparation scales, and Assessment of the Program's Intellectual Challenge scale. As shown in Table 1, there are two Program Satisfaction scales - Satisfaction with Courses and Satisfaction with Practical Relevance; three Assessment of

Professional Preparation scales - Standards of Professional Practice, Preparation for Reflective Practice, and Preparation for Diversity; and one Assessment of the Program's Intellectual Challenge scale. Table 1 presents the statistical properties for each scale including the mean and standard deviation for the total group on these scales and the alpha reliability coefficient measuring the scales' internal consistency. As shown, the reliability coefficients are quite high, ranging from .80 to .92.

Table 1

Statistical Properties of the Program Evaluation Scales

| Scales | Mean | S.D. | Reliability | No. of Items | Range of Responses |
|---|---|---|---|---|---|
| Program Satisfaction Scales | | | | | Low - High |
| Satisfaction with Courses | 3.31 | .11 | .88 | 10 | 1 - 4 |
| Satisfaction with Practical Relevance | 3.22 | .11 | .80 | 3 | 1 - 4 |
| Assessment of Professional Preparation Scales | | | | | |
| Standards of Professional Practice | 4.02 | .20 | .86 | 6 | 1 - 5 |
| Preparation for Reflective Practice | 3.90 | .29 | .90 | 6 | 1 - 5 |
| Preparation for Diversity | 3.25 | .17 | .92 | 3 | 1 - 5 |
| Assessment of the Program's Intellectual Challenge Scale | 3.07 | .11 | .83 | 4 | 1 - 4 |

Program Satisfaction Scales. Items included in the first scale, **Satisfaction with Courses** are based on responses to questions asking alumni to rate their satisfaction with courses or aspects of courses in the master's program, including class lectures/professors' presentations, class discussions, School of Education courses in general, and courses in the student's own major. The second scale, **Satisfaction with the Program's Practical Relevance** measures a crucial aspect for teacher education programs today, i.e., the program's perceived success in educating student teachers regarding real world issues and in preparing them to apply theory in the world of practice.

Assessment of Professional Preparation Scales. One of the benefits of an alumni survey is the opportunity it provides to elicit graduates' evaluation of their education through the lens of their experience. Relevant to this evaluation is the perceived quality of the preparation provided for professional practice. As noted previously, this alumni survey included questions designed specifically to obtain graduates' evaluation of the professional preparation they received in relation to certain criteria - professional standards, faculty goals, and the School of Education's commitment to diversity.

The first scale in this category, **Standards of Professional Practice,** contains six items reflecting selected professional accreditation standards, such as communicating the goals of learning clearly, understanding and showing respect for individual differences among students, and using relevant support systems. The second scale, **Preparation for Reflective Practice**, contains six items reflecting selected themes from the faculty's philosophy of teaching including enabling students to develop a knowledge base, make the knowledge their own, apply the knowledge in uncertain and complex environments, and enhance the knowledge base of the profession by designing and conducting research based on one's own experience. The third scale, **Preparation for Diversity**, focuses primarily on graduates' assessment of how well their master's program helped them develop the capability to cope with various aspects of diversity in their teaching of students from diverse socioeconomic, racial, ethnic and cultural backgrounds and specifically those in an urban setting.

Program's Intellectual Challenge Scales. One question in the alumni survey focused specifically on graduates' assessment of how intellectually challenging they found the following aspects of their master's program: class lectures/professors' presentations, class discussions/exchanges with peers, assigned readings, and course assignments/projects. Factor analysis established one dimension underlying responses to these questions. These questions were, therefore, combined into one scale, **Assessment of the Program's Intellectual Challenge**, with a high reliability of .83.

Professional Experience Scales

The two scales in this category are based on one question in the survey which presented respondents with a list of work related challenges, often mentioned by teachers, and asked them to indicate the degree to which these issues presented a challenge to them in their teaching assignments after earning their master's degree. The first professional experience scale, **Teachers' Relationship with Students** represents the various roles a teacher may assume with respect to students including teacher, advisor, mentor and disciplinarian. The second scale, **Teachers' Other Professional Roles** refers to the teachers' relationship with others and to his or her ability to evaluate his or her own teaching. The statistical properties for these scales are presented in Table 2. As shown, the reliability coefficients are quite strong, .87, for the first scale concerning challenges in teachers' relationships with students, and moderately strong, .76, for the second scale concerning challenges in teachers' other professional roles.

Table 2

Statistical Properties of the Professional Experience Scales

| Professional Experience Scales | Mean | S.D. | Reliability | No. of Items | Range of Responses |
|---|---|---|---|---|---|
| | | | | | Low - High |
| Professional Challenges Encountered in Teachers' Relationship with Students | 2.44 | .35 | .87 | 7 | 1 - 5 |
| Professional Challenges Encountered in Teachers' Other Professional Roles | 2.29 | .23 | .76 | 4 | 1 - 5 |

## Selected Results

### Relationship between Evaluation of Program Dimensions and Overall Evaluation

Results from correlation analyses with computed scales document a relationship between the evaluation of certain program dimensions and the overall evaluation. Statistically significant relationships were found between the six program evaluation scales and graduates' overall evaluation of how well the master's program prepared them for a teaching position. As shown in Table 3, the strongest relationship was found with graduates' perception of the preparation received for Reflective Practice ($r = .73$ $p \leq .01$) followed by Standards of Professional Practice (.61 $p \leq .01$), Satisfaction with Courses ($r = .57$ $p \leq .01$), Satisfaction with the Program's Practical Relevance ($r = .54$ $p \leq .01$), Assessment of the Program's Intellectual Challenge ($r = .47$ $p \leq .01$), and Preparation for Diversity ($r = .45$ $p \leq .01$).

Table 3

Correlations between Program Evaluation Scales and Graduates' Overall Evaluation of the Master's Teacher Education Program

| Program Evaluation Scales | Correlation |
|---|---|
| Program Satisfaction Measures | |
| Satisfaction with Courses | .57** |
| Satisfaction with the Program's Practical Relevance | .54** |
| Assessment of Professional Preparation Scales | |
| Standards of Professional Practice | .61** |
| Preparation for Reflective Practice | .73** |
| Preparation for Diversity | .45** |
| Assessment of the Programs' Intellectual Challenge | .47** |

** $p \leq .01$

Of particular interest in these results is the strong relationship between perceived preparation for the profession and overall evaluation of the program. The high correlations for the two Assessment of Professional Preparation scales - Standards of Professional Practice and Preparation for Reflective Practice - indicate that graduates' perception of how well the program

prepared them to meet the standards and responsibilities of their profession strongly influences their evaluation of their educational preparation.

Assessment of Intellectual Challenge and Overall Evaluation

Results from Chi square and correlation analyses indicate that there is a significant positive relationship between graduates' ratings of the intellectual challenge of various aspects of their program and their ratings of how well the program prepared them for a teaching position. Analysis based on individual questionnaire items revealed statistically significant positive relationships between graduates' overall rating of the professional preparation received through the master's program and the perceived intellectual challenge of each of the following: class lectures ($r = .40$ $p \leq .01$), assigned readings ($r = .42$ $p \leq .01$), and course assignments and projects ($r = .41$ $p \leq .01$).

Data presented in Table 4 illustrates the moderately strong, statistically significant relationship found between graduates' assessment of the intellectual challenge of class lectures and their overall evaluation of the master's program. As shown, the majority of those who found the class lectures to be very challenging, 52.1 percent, also reported that the program prepared them 'Very Well' for their professional practice. In contrast, the majority of those who found the class lectures only 'Slightly or Not At All' challenging, 57.7 percent, also rated the program from 'Very Poorly to Fair'.

Table 4

Assessment of Intellectual Challenge of Class Lectures and Overall Evaluation of the Program

| | Overall Evaluation | | | |
|---|---|---|---|---|
| Intellectual Challenge of Class Lectures | Very poorly to Fair | Well | Very Well | Total |
| Not at all/Slightly | 57.7 % (30) | 36.5 % (19) | 5.8 % (3) | 100.0 % (52) |
| Moderately | 26.2 (49) | 51.9 (97) | 21.9 (41) | 100.0 (187) |
| Very | 9.4 (9) | 38.5 (37) | 52.1 (50) | 100.0 (96) |

$X^2 = 65.03$ $p \leq .001$

Predicting Overall Evaluation of the Program

Multiple regression results, presented in Table 5, show that controlling for employment satisfaction, satisfaction with the program's preparation for reflective practice, satisfaction with courses, and perceived level of intellectual challenge offered by the program significantly predict overall evaluation of the program. Employment satisfaction, entered first in the equation as a covariate, explains five percent of the variance; satisfaction with the program's preparation for reflective practice, course satisfaction and perceived level of intellectual challenge explain an additional forty-seven, five and one percent respectively of the total variance in overall satisfaction. The F ratio for the total equation is 96.79 ($p \leq .001$).

Table 5

Regression Results:

Predicting Overall Evaluation of the Program From Course Satisfaction and Assessment of the Intellectual Challenge and Preparation Offered by the Program

| Order of Entry | Predictor | Bivariate r | Multiple R | R Square | $R^2$ Change | Beta Coefficient | F Ratio |
|---|---|---|---|---|---|---|---|
| 1 | Covariate: Employment Satisfaction | .22 | .22 | .05 | .05 | .09 | 5.7* |
| 2 | Preparation for Reflective Practice | .72 | .72 | .52 | .47 | .50 | 92.7*** |
| 3 | Satisfaction with Courses | .62 | .75 | .57 | .05 | .23 | 19.5*** |
| 4 | Perceived Intellectual Challenge | .49 | .76 | .58 | .01 | .13 | 7.5** |

The F ratio for the equation is 96.79 ***.
* $p \leq .05$
** $p \leq .01$
*** $p \leq .001$

Predicting Graduates' Reevaluation of their Program Choice

Discriminant analysis was performed to predict graduates' responses to the question, "If you were to make the decision over again regarding this Master's Program, which course of action would you follow?" Respondents were classified in two groups, those who would make the same choice and those who would make a different choice. Six variables were included as predictors: five Program Evaluation scales - Satisfaction with Courses, Standards of Professional

Practice, Preparation for Reflective Practice, Preparation for Diversity, Assessment of the Program's Intellectual Challenge and Employment Satisfaction. Results are presented in Table 6.

Table 6

Discriminant Analysis Results:

Predicting Graduates' Reevaluation of the Program Choice

| Predictors | Structure Coefficients | Percent Correctly Classified |
|---|---|---|
| Satisfaction with Courses | .85 | 81.93 |
| Preparation for Reflective Practice | .66 | |
| Standards of Professional Practice | .63 | |
| Assessment of Intellectual Challenge | .49 | |
| Employment Satisfaction | .45 | |
| Preparation for Diversity | .39 | |
| Canonical Correlation | .51 | $X^2 = 75.32$ df=6 $p \leq .001$ |

As shown in Table 6, the magnitude of the structure coefficients indicate that three Program Evaluation scales are highly correlated with this function - Satisfaction with Courses, Preparation for Reflective Practice and Standards of Professional Practice. Although to a lesser degree, Assessment of the Program's Intellectual Challenge, Employment Satisfaction, and perceived Preparation for Diversity are also positively correlated with this function. The canonical correlation of .51 indicates that this function explains 26 percent of the variance in graduates' reevaluation of their program choice. This discriminant function accurately predicts the choice of 82 percent of the respondents.

**Discussion**

This paper illustrates how alumni survey research can be used effectively in assessment studies, particularly of professional graduate level programs. The discussion of the design of the instrument illustrates how to address policy concerns of administrators, instructional values of the faculty, standards of professional practice and particular goals of a professional master's level educational program.

This study responds to the recommendation that master's degree assessment efforts give greater attention to the students who are the primary 'stakeholders' in this enterprise (e.g., Clark, 1979; Kirkwood, 1985; & Conrad & Egan, 1990), and that there be a comprehensive basis for assessment including faculty, students, resources, learning environment, curriculum and placement of alumni (Conrad and Egan, 1990). By addressing challenges encountered in professional practice and graduates' assessment of how the program might be improved to meet these challenges, the survey illustrates a unique value of alumni research. Alumni surveys provide a basis for evaluating how well the knowledge and skills developed through the educational program relate to the knowledge and skills required in the workplace (Jennings, 1989).

While recognizing the need to involve various constituencies in planning an alumni survey, the paper also establishes a unique role for the researcher, i.e., to address critical design issues such as the identification of the population and selection of the sample; the design of the survey instrument; and the selection of appropriate analytical techniques. The discussion of design issues emphasizes the importance of planning future analyses during the initial planning stages and of conceptualizing student outcomes from the perspective of various constituencies. Analysis techniques presented in the paper illustrate the use of bivariate and multivariate procedures in creating reliable measures and addressing important assessment questions.

Results from these analyses confirm the impact of satisfaction with courses, perception of intellectual challenge and the quality of professional preparation on graduates' overall evaluation of the program and on their reevaluation of their choice of this particular program. Both the design and findings from this research are potentially relevant to the design of future assessment studies of professional master's degree programs.

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